# COMPANY AND PRODUCT OVERVIEW

**www.igel.com**

IGEL TECHNOLOGY

## IGEL TECHNOLOGY

A world leader in thin client solutions, IGEL Technology helps organizations improve the agility, efficiency, and security of their virtual desktop and application delivery systems. We produce a very wide range of thin clients, based on Linux and Microsoft Windows, allowing customers to access a very broad spectrum of server-based infrastructures and applications. We also offer our powerful and intuitive management software for easy deployment and administration of thin clients throughout any-size organization. Partnerships with industry leaders like Citrix, Red Hat, VMware, and Microsoft ensure that we provide the most up-to-date technology and trust-worthy security to our clients in industries that include Healthcare, Education & Research, Public Sector, Financial Services, Insurance, Retail, Logistics, and Manufacturing. IGEL Technology has offices in the United States, Germany, the United Kingdom, the Netherlands, France, Hong Kong and Singapore, and our award-winning, in-house R&D team is located in Augsburg, Germany.

## DEPENDABLE, WORLD-CLASS ENGINEERING AND RELIABILITY

All IGEL Technology products are developed and engineered by our award-winning R&D team located in Augsburg, Germany. Wherever we prepare units for our customer – in our American, European, or Asian sales and distribution centers, our just-in-time order processing means our thin clients are updated with the latest firmware and tested immediately before shipping. With this closely monitored in-house process, we are able to guarantee that you get the highest quality technology and first-class service all from IGEL.

## BENEFITS OF THE IGEL UNIVERSAL DESKTOPS AT A GLANCE:

1. **Low investment costs:** no unnecessary hardware or software (modular design, management solution included at no extra cost)
2. **Low operating costs:** energy-efficient hardware, an intuitive management solution, no licensing or update costs; long service life (3 years of firmware updates even after model end-of-life), free 5-year warranty for the UD2, UD3, UD5 series
3. **Greater Security with a closed system:** When it comes to security, IGEL thin clients set the benchmark. IGEL thin clients have no local hard drives, so users are not able to locally install programs and they cannot be infected with viruses. Additionally, the USB ports can be selectively enabled to accept only certain peripheral devices. All IGEL thin clients support smartcard readers for secure
   two-factor authentication, personalization solutions or single sign-on (SSO) as well as selected USB token solutions.
4. **Free comprehensive technical support, free updates and service** (during warranty period), **global network of certified IGEL partner**
5. **Flexible deployment:** full connectivity for peripheral devices as well as centralized IT systems and Web/VoIP/multimedia applications
6. **Future-ready investment:** high processor and graphics performance, large RAM and flash memory, continuously developed firmware including technology and security updates
7. **Real potentials for consolidation:** PC, terminal, telephone and print server combined into one economical end-user device means less need for middleware
8. **Outstanding user convenience:** top-notch design and careful assembly, stable firmware, high performance due to direct access to server-based applications, virtual desktops and cloud based applications, no cooling fans mean no noise, minimal generation of heat

## IGEL UNIVERSAL DESKTOPS OFFERING GREAT FLEXIBILITY

IGEL UNIVERSAL DESKTOP

The firmware that comes standard with IGEL Universal Desktops contains a great variety of integrated software tools, clients and protocols. These features allow users to directly access the greatest variety of centralized IT infrastructures. They include traditional server-based computing (SBC) environments (Microsoft Windows, Citrix and Linux) as well as virtual desktop environments (VMware, Citrix, Red Hat or Microsoft). And the software connectivity does not just stop there. It also covers legacy and SAP host systems. In addition to Java-based or Web-based applications, it also permits direct multimedia streaming or VoIP by means of thin client and headset (softphone).

## CHOOSING THE RIGHT IGEL UNIVERSAL DESKTOP

Every IGEL Universal Desktop is composed of the components hardware, operating system and firmware pack:

### STEP 1: THREE OPERATING SYSTEMS

**IGEL LINUX** is the most cost-effective operating system with the best performance. IGEL Linux comes with a broad set of software clients, tools and protocols, giving the user the possibility to access the required application with the best protocol. IGEL's embedded Linux operating system offers maximum stability and security. Our strong in-house development team means IGEL customers can always be sure they have the latest updates and features integrated in a rock-solid firmware.

**WINDOWS EMBEDDED STANDARD 2009** the successor of Microsoft Windows XP Embedded delivers the power of Microsoft Windows XP to the thin client. The 32-bit Windows compatibility and the generously sized compact flash memory make it possible to install specific applications or drivers locally. Compared to its successor, Windows Embedded Standard 7, Windows Embedded Standard 2009 offers a complete Microsoft operating system with moderate hardware requirements.

**WINDOWS EMBEDDED STANDARD 7** Microsoft Windows Embedded Standard 2009's successor is equipped with the new Aero user interface and supports RemoteFX. The appealing Aero user interface augments the exceptional user experience. With Microsoft RemoteFX, Microsoft ushers in a new era of RDP protocol and now enables the redirection of USB devices and the smooth display of graphics-intensive content.

Windows® Embedded Standard 2009

Windows® Embedded Standard 7

## STEP 2: THREE FEATURE PACKS

**ENTRY** – This Feature Pack is designed for customers wanting to access just server-based Windows applications using the Citrix ICA or Microsoft RDP protocols. The IGEL Linux and Microsoft Windows Embedded Standard 2009 versions also have a Java SE Runtime Environment.

**STANDARD** – This Feature Pack has all the features of the Entry Pack plus virtualization support, local web browser, PDF Reader and terminal emulation. It also supports remote access using a variety of VPN protocols and the ThinPrint client for enhanced network printing.

**ADVANCED** – This Feature Pack is an extremely powerful collection of features that can connect you to almost any application, media or peripheral. In addition to the Standard Pack it offers extended multi-media capabilities like multi-media redirection, Citrix HDX, a local Media Player and Flash. Additionally it supports more specialized features such as VoIP, a native SAP GUI, NoMachine NX and ThinLinc printing. For advanced peripheral support, the Advanced Pack also supports USB re-direction so USB devices can connect seamlessly to the server-based Windows desktop.

## STEP 3: THE HARDWARE SERIES

**UD2 SERIES** – A small, affordable, energy-efficient hardware platform that can be VESA mounted on the back of a monitor. The DVI-I port supports dual monitors with an optional Y-Cable, and it can connect to common peripherals with its 4 USB ports.

**UD3 SERIES** – An affordable, compact, versatile mid-range hardware platform. The UD3 series is available with an integrated smartcard reader and a connectivity foot that offers wireless network connectivity and an additional serial port for legacy peripherals or an anti-theft USB support.

**UD5 SERIES** – A powerful and expandable hardware platform. Its high-speed processor and graphics can support demanding applications or many applications running simultaneously. It supports the broadest set of connectivity to peripherals. Optionally you can add an integrated smartcard reader and a connectivity foot with a parallel port and wireless network connectivity or an anti-theft USB port.

**UD9 SERIES** – An integrated 21.5" (54.6 cm) LCD platform with a broad range of I/O ports. Ideal for customer-facing situations or space-constrained environments. The UD9 offers optional WLAN, touch screen and smartcard reader. Only available with the Advanced Feature Pack.

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**WWW.IGEL.COM/US/EVAL**

## ADDITIONAL SHARED WORKPLACE FEATURE

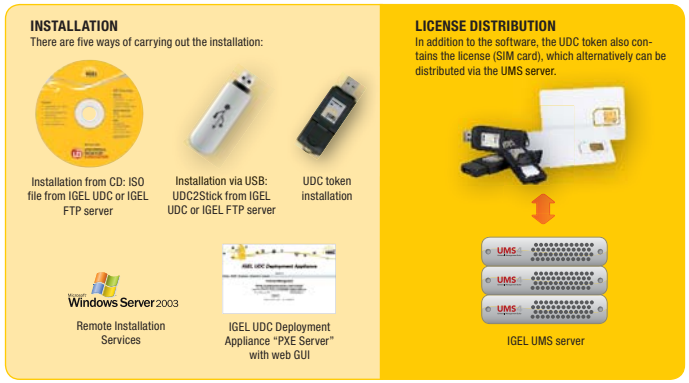
The "Shared WorkPlace" feature, which can be optionally licensed, is an enhancement of IGEL's thin client software. It allows user-dependent configuration based on setting profiles created in the IGEL UMS and linked to the user accounts in the Active Directory. Typical applications for the Shared WorkPlace option are those workstations used for shift work or in call centers, where different staff members use the same device and need their own individual settings, such as for session types or mouse-button configuration for right/left-handed operation. Another common use can be found in roaming environments, where users frequently switch workstations, such as in hospitals and at service/ticket counters, checkouts (POS) and customer reception areas. After a user has logged on, the Shared WorkPlace thin client automatically receives the appropriate configuration for that user from the UMS server, which itself retrieves it from the UMS database of individual and group profiles. These profiles can be readily assigned to users in the IGEL Universal Management console simply by drag-and-drop.

## UNIVERSAL MULTIDISPLAY

The new software solution IGEL Universal MultiDisplay allows to combine up to four standard devices cost-effectively into one workstation with up to eight screens which can be remotely administered. The heart of the solution is the standard thin client IGEL UD5 x30-LX which provides two monitor connections. With an integrable network card, it can be set as the master device and manage up to three Linux-based standard thin clients (such as IGEL UD2 and UD3), which automatically configure themselves as satellites, each providing up to two additional monitors.

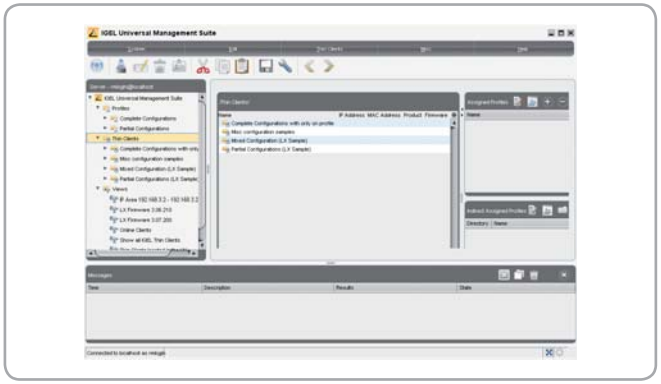
## IGEL UNIVERSAL DESKTOP CONVERTER (UDC) SOFTWARE

The Universal Desktop Converter (UDC) allows you to migrate your existing PC or old thin client hardware to a fully manageable IGEL Universal Desktop thin client-like device, capable of delivering Citrix, VMware, Microsoft, Red Hat and Terminal Server desktop applications. You can then use the full software functionality of our Entry, Standard or Advanced IGEL thin client firmware packs. Additionally you receive our specialized thin client deployment and management software, allowing you to quickly and securely manage and administer your converted desktop infrastructure together with IGEL thin clients. The UDC allows a step-by-step introduction of these technologies and minimizes the initial procurement costs for new client hardware.


INSTALLATION
There are five ways of carrying out the installation:
Installation from CD: ISO file from IGEL UDC or IGEL FTP server
Installation via USB: UDC2Stick from IGEL UDC or IGEL FTP server
UDC token installation
Windows Server 2003
Remote Installation Services
IGEL UDC Deployment Appliance "PXE Server" with web GUI
LICENSE DISTRIBUTION
In addition to the software, the UDC token also contains the license (SIM card), which alternatively can be distributed via the UMS server.
IGEL UMS server

## IGEL UNIVERSAL MANAGEMENT SUITE (UMS) 4

With IGEL thin client computing, the total cost of ownership (TCO) of the desktop environment can be cut by up to 70%. A substantial portion of this potential for optimizing computing environments is due to powerful features of the IGEL Universal Management Suite, which comes standard with all IGEL units. It offers numerous local protocols, software clients, tools and security features, undergoes continuous development and refinement and sets the standard when it comes to secure and fast management of extensive thin client installations located across several countries/regions. The IGEL Universal Management Suite supports a wide variety of operating systems, databases and directory services, such as Microsoft® Active Directory, making it very easy to integrate into existing installations. Furthermore, the IGEL Universal Management Suite also permits problem-free, compatible management of earlier IGEL models.



## IGEL UMS HIGH AVAILABILITY EXTENSION

IGEL thin clients will boot up and function securely and reliably even if they aren't able to establish contact with the IGEL Universal Management Suite (UMS). In this case, they simply use the last locally saved settings. However, to ensure 100% availability of the UMS, the High Availability Extension offers the option of creating a redundant set of components, allowing both internal and external requirements, rules and regulations for failsafe operation of all systems to be met. In particular, in cases where there are separate user-specific configuration settings for a Shared WorkPlace, it's good practice to deploy this kind of failsafe design to ensure that all users of the same workstation can obtain their individual settings as needed. In addition, this extension enables load balancing between the individual UMS instances, allowing new settings to be distributed even in environments with more than 500 devices that are all booting up at essentially the same time. This functionality is available in the new UMS Version 4. To permit evaluation of the new extension, the new-version UMS contains five preinstalled test licenses. However, actual deployment of the extension requires payment of an extra fee.

# SOFTWARE

## UNIVERSAL DESKTOP CONVERTER (UDC) SOFTWARE

| SYSTEM REQUIREMENTS |
|---|
| RAM: 512 MB |
| Flash- / HDD-Memory (IDE, USB or SATA): 512 MB |
| BIOS requirements: USB boot support, alternative: CD-Boot support |
| Min. requirements Microsoft RemoteFX: CPU ≥ 800 MHz, SSE2 Support |
| **IGEL HARDWARE MIGRATION** |
| IGEL Smart 2110 LX |
| IGEL Compact 3210 LX |
| IGEL Winestra 4210 LX |
| IGEL Premium 5210 LX, IGEL Premium 5310 L |
| **THIRD PARTY HARDWARE MIGRATION** |
| **Acer** Veriton N260G / N281G |
| **Advantech-DLoG** MTC 6 |
| **DELL** Optiplex FX160 |
| **Fujitsu** Futro S100 / S450 / 500 / S550 / S550-2 |
| **HP** t5545 / t5565 / t5630w / t5735 / t5745 |
| **Neoware** c50 (DE-*2-GD) / e90 (DC-*2-GD) / e140 (DD-*2-GD) |
| **Samsung** TC190 / TC240 |
| **Wyse** C90LE / C90LEW / R50L |
| **LEGACY PC MIGRATION** |
| Standard x86-compatible PC hardware |
| **AVAILABLE COMPONENTS** |
| **UDC token** (USB) |
| **UDC-120 LX** |
| **UDC-420 LX** |
| **UDC-720 LX** |
| **SOFTWARE FEATURES** |
| see Firmware Packages Linux[1] |

[1] The functionality available will depend upon the specifications of the original hardware device

# HARDWARE SERIES

## UNIVERSAL DESKTOPS

| HARDWARE | | UD2 | UD2-LX MultiMedia | UD3 | UD5 | UD9 |
|---|---|---|---|---|---|---|
| **POWER SUPPLY** | | External | External | External | External | External |
| **POWER CONSUMPTION** | | 9 W (Idle) 2 W (Sleep) | 7 W (Idle) < 1 W (Sleep) | 11 W (Idle) 1 W (Sleep) | 11 W (Idle) 1 W (Sleep) | 38 W (Idle) 2 W (Sleep) |
| **FLASH** | | 1 GB | 2 GB | 1 GB (LX) / 2 GB (ES) 4 GB (W7) | 1 GB (LX) / 2 GB (ES) / 4 GB (W7) | 2 GB (LX / ES) 4 GB (W7) |
| **RAM** | | 1 GB | 1 GB DDR3 | 1 GB (LX / ES) 2 GB (W7) | 1 GB (LX / ES) 2 GB (W7) | 1 GB (LX / ES) 2 GB (W7) |
| **CPU** | | VIA Eden 500 MHz | TI TMS320DM8148 Cortex A8, 1 GHz | VIA Nano 1 GHz | Via Nano 1,3 GHz | Intel Atom N270 1,6 GHz |
| **VIDEO MEMORY** | | 64 – 256 MB | 64 MB | 64 – 256 MB | 128 – 256 MB | 32 – 128 MB |
| **MAX RESOLUTION** | | Dualview 1920 x 1200 | Dualview 1920 x 1200 | Dualview 1920 x 1200 | 1x Display Port (LX: max. 2560 x 1600, ES,W7: max. 1920 x 1200) 1x DVI-I / Dualview 1920 x 1200 | Dualview 1920 x 1080 |
| Linux | 1 | **UD2-130 LX[2]** | | **UD3-131 LX** | **UD5-130 LX** | |
| | 4 | **UD2-430 LX[2,3]** | | **UD3-431 LX** | **UD5-430 LX** | |
| | 7 | | | **UD3-731 LX** | **UD5-730 LX** | **UD9-730 LX** **UD9-731 LX[4]** |
| | SoC[5/6] | | **UD2-LX MultiMedia** | | | |
| Windows Embedded Standard 2009 | 1 | | | **UD3-131 ES** | **UD5-130 ES** | |
| | 4 | | | **UD3-431 ES** | **UD5-430 ES** | |
| | 7 | | | **UD3-731 ES** | **UD5-730 ES** | **UD9-730 ES** **UD9-731 ES[4]** |
| Windows Embedded Standard 7 | 7 | | | **UD3-731 W7** | **UD5-730 W7** | **UD9-730 W7** **UD9-731 W7[4]** |

[2] No RemoteFX support [3] VMware View via RDP only [4] with touchscreen [5] System-on-Chip [6] Funzioni attualmente disponibili. Altre funzionalità in arrivo.

# OPERATING SYSTEMS / FIRMWARE PACKAGES

IGEL UNIVERSAL DESKTOP

UNIVERSAL DESKTOP CONVERTER

**FIRMWARE PACKAGES:**

- 1 = Entry
- 4 = Standard
- 7 = Advanced

**PRODUCT NAMING:** IGEL UD5-430 LX

= IGEL UD5

+ Firmware Package Standard 4

+ Linux OS

| Operating Systems | Firmware Packages | **Management** | Local and Remote Management (UMS) | Fail-safe Firmware Update | Power Management | **Network:** Standard: TCP/IP, PXE, Wake-on-LAN, DNS, DHCP | SNMP | PPTP | L2TP | Third Party VPN: Cisco / NCP | PPPoE (DSL via onboard LAN) | **Communication** | RDP / ICA | Microsoft RemoteApp | Microsoft RemoteFX | X-Access (XDMCP) | Citrix XenDesktop | VMware View | Appliance mode for virtual desktops | Ericom PowerTerm WebConnect | Ericom PowerTerm Terminal Emulation | Native IBM 5250 Emulation | Local web browser | Leostream | NoMachine NX | Quest vWorkspace | Virtual Bridges VERDE VDI | Red Hat Enterprise Virtualization for Desktops | ThinLinc | **Print Services** | Line Printer (LPD) | Internet Printing Protocol (IPP) | Windows Shared Printer | ThinPrint | **Additional Software Features** | Multimedia Redirection | Java SE Runtime Environment | Java OpenJDK Runtime Environment | PDF Reader | SAP GUI | Extended USB Redirection | .NET Framework | Voice over IP | Media Player |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Linux | 1 | | x | x | x | | | | | | x | | x | x | x | x | | | | | | | | | | | | | | | x | x | | | | x | | | | | | | | |
| | 4 | | x | x | x | | | x | | Cisco / NCP | x | | x | x | x | x | x | x | x | x | x | x | x | x | | x | x | x | | | x | x | | x | | | x | | | x | | | | | |
| | 7 | | x | x | x | | | x | | Cisco / NCP | x | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | | | x | x | | x | | x | x | | x | x | x | | x | x |
| | SoC 5/6 | | x | x | | | | | | | | | x | x | x | x | x | x | | | | | x | | | | | | | | | x | x | | | | x | | x | x | | | | | x |
| Windows Embedded Standard 2009 | 1 | | x | x | x | | x | | | | x | | x | x | | | | | | | | | | | | | | | | | | | x | | | | | | x | | | | | |
| | 4 | | x | x | x | | x | x | x | – / NCP | x | | x | x | | | x | x | x | x | x | | x | x | | x | | x | | | | | x | x | | | x | | | x | | | | |
| | 7 | | x | x | x | | x | x | x | – / NCP | x | | x | x | | | x | x | x | x | x | | x | x | x | x | | x | | | | | x | x | | | x | | x | x | | x | x | x |
| Windows Embedded Standard 7 | 7 | | x | x | x | | x | x | x | – / NCP | x | | x | x | x | | x | x | x | x | x | | x | x | x | x | | x | | | | | x | x | | | x | | x | x | | x | x | x |

A 2-year thin client hardware warranty for end customers (after date of delivery) comes as standard. After an online registration this warranty will be extended for 3 years to a 5-year warranty (IGEL UD2, UD3, UD5), or for 1 year to a 3-year warranty (IGEL U9). The warranty upgrade does not cover any additional hardware options.

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